timing creating section 5 and the address information Sadr to the control section 4.

The timing creating section 5 creates the recording clock signal Stm based on the synchronization signal Ssyc, and supplies it to the recording power setting section 6 and the recording pattern generating section 7.

While, the recording information Sr entered from the outside is supplied to the control section 4.

The control section 4 adds an error correction mark to the supplied recording information Sr and modulates the supplied recording information Sr. Based on the address information Sadr, it recognizes the record position on the DVD-R1 to record the supplied recording information Sr, and supplies the recording information Sr to the recording waveform creating section 8 through the switch 25, as the recording signal Srr at the timing corresponding to the record position.

The recording pattern generating section 7 generates a recording pattern signal Spt having a random pulse width from 3T to 11T, using recording clock signal Stm as a reference clock, based on the control signal Sct from the control section 4, and supplies it to the recording waveform creating section 8 through the switch 25, in the normalization processing described later.

The recording waveform creating section 8 performs the waveform shaping processing (strategy processing), which shapes and optimizes the form of the recording pit formed in the recording track on the DVD-R1 correspondingly to the waveform of the recording pattern signal Spt, on the recording signal Srr or the recording pattern signal

Spt, and generates a shaped pattern signal Ssr to supply it to the driving section 9.

While, the recording power setting section 6 generates a power signal Spc indicating the recording power set in the recording power setting processing described later which is executed prior to the information recording, based on the control signal Scp from the control section 4, and supplies it to the driving section 9.

The driving section 9 generates a driving signal Sdd for irradiating the optical beam B for recording by the recording power indicated by the power signal Spc and supplies it to the driver 10.

The driver 10 drives a semiconductor laser, not illustrated, within the pickup 2, so as to generate a driving signal Sd for irradiating the recording optical beam B intensity-modulated correspondingly to the waveform change indicated by the shaped pattern signal Ssr, with reference to the recording power indicated by the power signal Spc, and so as to supply it to the semiconductor laser within the pickup 2.

The recording optical beam B corresponding to the original recording information Sr is irradiated on the DVD-R1 by driving the semiconductor laser according to the driving signal Sd, hence to form a recording pit corresponding to the recording information Sr in the recording track on the DVD-R1, thereby completing a serried of recording processing of the recording information Sr.

The calibration processing of the recording power concerned with the embodiment, which is performed prior to the above-mentioned recording processing, will be described.

As mentioned above, the calibration processing concerned with the embodiment is performed by using the PCA and RMA formed in the inner portion than the lead-in area on the DVD-R1.

The detailed structure of the DVD-R1 including the PCA and the RMA will be described by using FIG. 2.

As illustrated in FIG. 2A, the DVD-R1 of the embodiment is comprised of: from the inside, a clump hole CH for mounting and fixing the DVD-R1 around a rotation axis of a spindle motor, not illustrated, within the information recording unit R; a non-recordable area 16 where information is not recorded on the inner peripheral side; the PCA 18; the RMA 12; an information area DA where actual recording processing is performed; and an end area 17.

The information area DA is further comprised of: a lead-in area 13 where start information and the like to be read out when reproducing the recording information recorded in a data area 14 described later is recorded; the data area 14 where the recording information is recorded; and a lead-out area 15 where end information and the like to be read out when finishing the playback of the recording information recorded in the data area 14 is recorded. The lead-in area 13 is an area for recording the start information and the like prior to recording the information in the data area 14, while the lead-out area 15 is an area for recording the end information and the like after fully finishing the recording on the overall DVD-R1 (namely, when all recording of the recording information for the DVD-R1 is finished).

The PCA 18 is divided into the number N of sectors 20 (for example, N is 7000), and one or more of these sectors 20 are used to